



Bureau of Air Quality Conditional Major Operating Permit

**Duke Energy Carolinas, LLC – Catawba Nuclear Station
4800 Concord Road, CN04EM
York, South Carolina 29745
York County**

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5), 48-1-100(A), and 48-1-110(a), the 1976 Code of Laws of South Carolina, as amended, and South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards, the Bureau of Air Quality authorizes the operation of this facility and the equipment specified herein in accordance with valid construction permits, and the plans, specifications, and other information submitted in the operating permit request received on March 13, 2017, as amended. All official correspondence, plans, permit applications and written statements are an integral part of the permit. Any false information or misrepresentation in the application for a construction or operating permit may be grounds for permit revocation.

The operation of this facility is subject to and conditioned upon the terms, limitations, standards, and schedules contained herein or as specified by this permit and its accompanying attachments.

Permit Number: CM-2440-0070

Issue Date: DRAFT
Expiration Date: DRAFT

Effective Date: DRAFT
Renewal Due Date: (10-year cycle)

**Steve McCaslin, P. E., Director
Air Permitting Division
Bureau of Air Quality**

RECORD OF REVISIONS	
Date	Description of Changes

DRAFT

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Emission Unit ID	Emission Unit Description
01	VOID – Coating Booths (Exempted)
02	VOID – Sandblasting (Exempted)
03	VOID - Carpenter Shop (Exempted)
04	VOID – Generators, Compressors, and Water Pumps (Exempted)
05	Cooling Towers

B. EQUIPMENT AND CONTROL DEVICE(S)**B.1 EQUIPMENT FOR EMISSION UNIT 05 – Cooling Towers**

Equipment ID	Equipment Description	Installation/ Modification Date	Control Device ID	Emission Point ID
CT-1	Induced Draft Cooling Tower (3 cells)	1988	None	CT-1
CT-2	Induced Draft Cooling Tower (3 cells)	1988	None	CT-2

C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
C.1	<p>Emission Unit ID: All Equipment ID: All Control Device ID: All</p> <p>(S.C. Regulation 61-62.1, Section II.J.1.g) A copy of the Department issued construction and/or operating permit must be kept readily available at the facility at all times. The owner or operator shall maintain such operational records; make reports; install, use, and maintain monitoring equipment or methods; sample and analyze emissions or discharges in accordance with prescribed methods at locations, intervals, and procedures as the Department shall prescribe; and provide such other information as the Department reasonably may require. All records required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least 5 years from the date the record was generated and shall be made available to a Department representative upon request.</p>
C.2	<p>Emission Unit ID: 05 Equipment ID: CT-1 and CT-2</p> <p>In accordance with S.C. Regulation 61-62.5, Standard No. 4 - Emissions from Process Industries, Section IX - Visible Emissions (Where Not Specified Elsewhere), emissions (including fugitive</p>

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
	<p>emissions) from sources where construction or modification began after December 31, 1985 shall each not exhibit opacity greater than 20% (each).</p> <p>The owner/operator shall perform a visual inspection at the emission point, while the equipment is operating, on a semiannual basis.</p> <p>Visual inspection means a qualitative observation of opacity during daylight hours where the inspector records results in a log, noting color, duration, density (heavy or light), cause, and corrective action taken for any abnormal emissions. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water.</p> <p>The owner/operator shall submit semiannual reports documenting that visual inspections were conducted in accordance with this condition. The report shall include records of abnormal emissions if any and corrective actions taken. If the unit did not operate during the inspection period, the report shall so state. Records of visual inspection shall be maintained on site.</p>
C.3	<p>Emission Unit ID: 05 Equipment ID: CT-1 and CT-2</p> <p>In accordance with S.C. Regulation 61-62.1, Section II.J.2, the owner/operator shall limit the total dissolved solids (TDS) concentration in the cooling towers process water to 347 ppm (average of both cooling towers).</p> <p>The owner/operator shall calculate and record monthly the TDS in each of the cooling towers circulating water when operating. If the 12-month rolling average TDS of the combined cooling towers exceeds 347 ppm, the owner/operator shall submit updated calculations to the Department.</p> <p>Operation and maintenance checks shall be made on at least a semiannual basis for the cooling towers' drift eliminators for proper operation, in accordance with manufacturer's specifications. Documentation of the recorded TDS concentration, semiannual inspections, maintenance activities, and other work performed shall be maintained on-site.</p>
C.4	<p>(S.C. Regulation 61-62.1, Section II.G) This facility is a potential major source for NO_x emissions. The facility has agreed to federally enforceable operating limitations to limit its potential to emit to less than 100.0 tons per year for NO_x emissions to avoid Title V.</p> <p>The owner/operator shall maintain fuel oil usage records and operational hours for all fuel burning sources and any other records necessary to determine facility wide NO_x emissions. Exempt fuel burning sources are permitted to burn No. 2 fuel oil, diesel fuel, or propane. NO_x emissions shall be calculated on a monthly basis, and a twelve month rolling sum shall be calculated for total NO_x emissions. Emissions from malfunctions are required to be quantified and included in the</p>

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
	<p>calculations. The twelve month rolling sum shall be less than 100 tons. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, shall be submitted annually.</p> <p>An algorithm, including example calculations and emission factors, explaining the method used to determine emission rates shall only be included in the initial report. Subsequent submittals of the algorithm are required within 30 days of the change if the algorithm or basis for emissions is modified or the Department requests additional information.</p>
C.5	<p>This facility is subject to the provisions of New Source Performance Standards (NSPS), 40 CFR 60 Subpart A (General Provisions) and Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and South Carolina Regulation 61-62.60 Subparts A and IIII. Existing affected sources shall comply with all applicable requirements of these Subparts. Any new affected sources shall comply with the requirements of these Subparts upon initial start-up unless otherwise noted.</p>

D. NESHAP PERIODIC REPORTING SCHEDULE SUMMARY

NESHAP Part	NESHAP Subpart	Compliance Monitoring Report Submittal Frequency	Reporting Period	Report Due Date
63	ZZZZ (Emergency Engines see note 3 and 4)	N/A	N/A	N/A

1. This table summarizes only the periodic compliance reporting schedule. Additional reports may be required. See specific NESHAP Subpart for additional reporting requirements and associated schedule.
2. This reporting schedule does not supersede any other reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, 40 CFR Part 63, and/or Title V. The MACT reporting schedule may be adjusted to coincide with the Title V reporting schedule with prior approval from the Department in accordance with 40 CFR 63.10(a)(5). This request may be made 1 year after the compliance date for the associated MACT standard.
3. Facilities with emergency engines are not required to submit reports. Only facilities with non-emergency engines are required to submit semiannual reports.
4. Facilities with emergency engines shall comply with the operations limits specified in 40 CFR 63.6640(f).

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E. NESHAP – CONDITIONS

Condition Number	Conditions
E.1	All NESHAP notifications and reports shall be sent to the Manager of the Air Toxics Section, South Carolina Department of Health and Environmental Control - Bureau of Air Quality.
E.2	All NESHAP notifications and the cover letter to periodic reports shall be sent to the United States Environmental Protection Agency (US EPA) at the following address or electronically as required by the specific subpart: US EPA, Region 4 Air, Pesticides and Toxics Management Division 61 Forsyth Street SW Atlanta, GA 30303
E.3	Emergency power generators less than or equal to 150 kilowatt (kW) rated capacity or greater than 150 kW rated capacity designated for emergency use only and operated a total of 500 hours per year or less for testing and maintenance with a method to record the actual hours of use such as an hour meter have been determined to be exempt from construction permitting requirements in accordance with South Carolina Regulation 61-62.1. These sources shall still comply with the requirements of all applicable regulations including but not limited to the following: New Source Performance Standards (NSPS) 40 CFR 60 Subpart A (General Provisions); NSPS 40 CFR 60 Subpart IIII (Stationary Compression Ignition Internal Combustion Engines); NSPS 40 CFR 60 Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines); National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart A (General Provisions); and NESHAP 40 CFR 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines).

F. PERMIT FLEXIBILITY

Condition Number	Conditions
F.1	The facility may install exempt sources as allowed in S.C. Regulation 61-62.1, Section II.B, without revising or reopening the operating permit. The addition of these sources is allowed without a construction permit except when the activity triggers a new operating permit status (i.e. does not potentially subject the facility to the Title V operating permit program) and/or any activity triggers major source or synthetic minor permitting requirements. A list of exempt sources must be maintained on site, along with any necessary documentation to support the determination that the source is exempt, and shall be made available to a Department representative upon request. The list and necessary documentation shall be submitted with the next renewal application. Emissions from these sources shall be reflected in the facility-wide emissions tabulation in any subsequent construction permit application.

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Condition Number	Conditions
G.1	<p>Air dispersion modeling (or other method) has demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in this demonstration may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. The emission rates used in the determination are listed in Attachment - Emission Rates for Ambient Air Standards of this permit. Higher emission rates may be administratively incorporated into Attachment - Emission Rates for Ambient Air Standards of this permit provided a demonstration using these higher emission rates shows the attainment and maintenance of any state or federal ambient air quality standard or with any other applicable requirement. Variations from the input parameters in the demonstration shall not constitute a violation unless the maximum allowable ambient concentrations identified in the standard are exceeded.</p> <p>The owner/operator shall maintain this facility at or below the emission rates as listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations of this permit. Should the facility wish to increase the emission rates listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations in the body of this permit, it may do so by the administrative process specified above. This is a State Only enforceable requirement.</p>

H. PERIODIC REPORTING SCHEDULE

Compliance Monitoring Report Submittal Frequency	Reporting Period (Begins on the effective date of the permit)	Report Due Date
Quarterly	January-March April-June July-September October-December	April 30 July 30 October 30 January 30
Semiannual	January-June April-September July-December October-March	July 30 October 30 January 30 April 30
Annual	January-December April-March July-June October-September	January 30 April 30 July 30 October 30

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H. PERIODIC REPORTING SCHEDULE

Compliance Monitoring Report Submittal Frequency	Reporting Period (Begins on the effective date of the permit)	Report Due Date
Note: This reporting schedule does not supersede any federal reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, and 40 CFR Part 63. All federal reports must meet the reporting time frames specified in the federal standard unless the Department or EPA approves a change.		

I. REPORTING CONDITIONS

Condition Number	Conditions
I.1	Reporting required in this permit, shall be submitted in a timely manner as directed in the Periodic Reporting Schedule of this permit.
I.2	All reports and notifications required under this permit shall be submitted to the person indicated in the specific condition at the following address: 2600 Bull Street Columbia, SC 29201 The contact information for the local Environmental Affairs Regional office can be found at: http://www.scdhec.gov
I.3	Unless elsewhere specified within this permit, all reports required under this permit shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality.
I.4	(S.C. Regulation 61-62.1, Section II.J) For sources not required to have continuous emissions monitors, any malfunction of air pollution control equipment or system, process upset or other equipment failure which results in discharges of air contaminants lasting for one hour or more and which are greater than those discharges described for normal operation in the permit application shall be reported to the Department's local Environmental Affairs Regional office within 24 hours after the beginning of the occurrence. The owner/operator shall also submit a written report within 30 days of the occurrence. This report shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality and shall include, at a minimum, the following: <ol style="list-style-type: none">1. The identity of the stack and/or emission point where the excess emissions occurred;2. The magnitude of excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the excess emissions;3. The time and duration of excess emissions;4. The identity of the equipment causing the excess emissions;5. The nature and cause of such excess emissions;6. The steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction;7. The steps taken to limit the excess emissions; and,8. Documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated, to the maximum extent practicable, in a manner

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I. REPORTING CONDITIONS

Condition Number	Conditions
	consistent with good practice for minimizing emissions.

J. GENERAL CONDITIONS

Condition Number	Conditions
J.1	The owner or operator shall comply with S.C. Regulation 61-62.2 "Prohibition of Open Burning."
J.2	The owner or operator shall comply with S.C. Regulation 61-62.3 "Air Pollution Episodes."
J.3	The owner or operator shall comply with S.C. Regulation 61-62.4 "Hazardous Air Pollution Conditions."
J.4	This permit only covers emission units and control equipment while physically present at the indicated facility. Unless the permit specifically provides for the equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted facility, notwithstanding the expiration date specified on the permit.
J.5	The permittee shall pay permit fees to the Department in accordance with the requirements of S.C. Regulation 61-30, Environmental Protection Fees.
J.6	<p>In the event of an emergency, as defined in S.C. Regulation 61-62.1, Section II.L, the owner or operator may document an emergency situation through properly signed, contemporaneous operating logs, and other relevant evidence that verify:</p> <ol style="list-style-type: none">1. An emergency occurred, and the owner or operator can identify the cause(s) of the emergency;2. The permitted source was at the time the emergency occurred being properly operated;3. During the period of the emergency, the owner or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and4. The owner or operator gave a verbal notification of the emergency to the Department within 24 hours of the time when emission limitations were exceeded, followed by a written report within 30 days. The written report shall include, at a minimum, the information required by S.C. Regulation 61-62.1, Section II.J.1.c.i through viii. The written report shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. <p>This provision is in addition to any emergency or upset provision contained in any applicable requirement.</p>
J.7	<p>(S.C. Regulation 61-62.1, Section II.O) Upon presentation of credentials and other documents as may be required by law, the owner or operator shall allow the Department or an authorized representative to perform the following:</p> <ol style="list-style-type: none">1. Enter the facility where emissions-related activity is conducted, or where records must be kept under the conditions of the permit.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

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J. GENERAL CONDITIONS

Condition Number	Conditions
	<p>3. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.</p> <p>4. As authorized by the Federal Clean Air Act and/or the S.C. Pollution Control Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.</p>

K. PERMIT RENEWAL, MODIFICATION, EXPIRATION AND TRANSFER OF OWNERSHIP

Condition Number	Conditions
K.1	This permit may be reopened by the Department for cause or to include any new standard or regulation which becomes applicable to a source during the life of the permit.
K.2	This permit may be modified by the Department for cause, to include any applicable requirement or to add or alter a permit's expiration date.
K.3	(S.C. Regulation 61-62.1, Section II.M) Within 30 days of the transfer of ownership/operation of a facility, the current permit holder and prospective new owner or operator shall submit to the Director of Air Permitting a written request for transfer of the source operating or construction permits. The written request for transfer of the source operating or construction permit shall include any changes pertaining to the facility name and mailing address; the name, mailing address, and telephone number of the owner or operator for the facility; and any proposed changes to the permitted activities of the source. Transfer of the operating or construction permits will be effective upon written approval by the Department.
K.4	(S.C. Regulation 61-62.1, Section II.H) The owner or operator shall submit an operating permit renewal request to the Department within 90 days prior to the operating permit expiration date. The operating permit renewal requests shall include a description of any changes at the facility that have occurred since issuance of the last operating permit that may affect the operating permit or operating permit review. In general, the description shall include any addition, alteration or removal of sources, including sources exempt from construction permit requirements; addition, alteration or removal of emission limitations; any changes to monitoring, recordkeeping, or reporting requirements; and any changes or additions to special permit conditions.
K.5	Submission of a request for renewal meeting the requirements in S.C. Regulation 61-62.1, Section II.H, shall allow the owner or operator to continue operating pursuant to the most recent operating permit, until such time as the Department has taken final action on the request for renewal.

ATTACHMENT - Emission Rates for Ambient Air Standards

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The emission rates listed herein are not considered enforceable limitations but are used to evaluate ambient air quality impact. Until the Department makes a determination that a facility is causing or contributing to an exceedance of a state or federal ambient air quality standard, increases to these emission rates are not in themselves considered violations of these ambient air quality standards (see Ambient Air Standards Requirements).

AMBIENT AIR QUALITY STANDARDS – STANDARD NO. 2						
Emission Point ID	Emission Rates (lbs/hr)					
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Lead
CT1	1.41	Exempt	----	----	----	----
CT2	1.41	Exempt	----	----	----	----
CT3	1.41	Exempt	----	----	----	----
CT4	1.41	Exempt	----	----	----	----
CT5	1.41	Exempt	----	----	----	----
CT6	1.41	Exempt	----	----	----	----

TOXIC AIR POLLUTANTS – STANDARD NO. 8					
Emission Point ID	Emission Rates (lbs/hr)				
	Ethylbenzene	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	Toluene	Xylene
	100-41-4	78-93-3	108-10-1	108-88-3	1330-20-7
PAINTG1(A-F)	1.95	4.5	2.0	1.95	10.9
PAINTG2(A-F)	1.95	4.5	2.0	1.95	10.9